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Offsets in the Middle East

Middle East Policy; Washington; Oct 1998; Leo G B Welt; Dennis B Wilson;

Volume: 6
Issue: 2
Start Page: 36-53
ISSN: 10611924
Subject Terms: Military sales
Defense industry
Geographic Names: Middle East

Abstract:
The requirement that sellers of military equipment agree to "offsets" has been a feature of defense procurement contracts for almost 40 years. Welt and Wilson examine how offsets have evolved in the Middle East.

Full Text:

The requirement that sellers of military equipment agree to "offsets" has been a feature of defense procurement contracts for almost forty years.1 Despite numerous criticisms of the practice of offsets,2 their use has continued and even grown.3 Virtually any defense contractor seeking to sell a major military system to a foreign country must be prepared to offer and fulfill offsets as a condition of sale. The practice of requiring offsets has spread beyond defense procurements and is increasingly required in major civil contracts, especially the sale of aircraft.4 This article will examine how offsets have evolved in a part of the world crucial to the defense exporter: the Middle East. The evolution and nature of offsets in the Middle East is especially important, both because the nations there purchase many defense systems of considerable value and because the types of offsets requirements adopted by countries in the Middle East may be imitated elsewhere. If defense exporters understand and can fulfill the offsets being demanded in the challenging arena of the Middle East, they will be well positioned to match or exceed their competition anywhere in the world.

A PRIMER ON OFFSETS

Most people with experience or education in international trade have some knowledge of offsets. Nevertheless, there are always some new players in the game, and since even experienced international traders use terms like "offset" slightly differently, an explanation of how this article defines offsets will be helpful. Offsets are commercial arrangements demanded by a buyer and agreed to by a seller that obligate the seller to perform actions that will "offset" the outflow of money required by the contract for sale.5 Offsets are often characterized as "direct" or "indirect."6 The table set forth below shows the various types of direct and indirect offsets, along with a description of each of them.7

Since many defense transactions are complex, a single offset agreement may provide for both direct and indirect offsets. Moreover, the precise mechanisms by which an offset obligation will be fulfilled are generally left unspecified, or incompletely specified in the offset agreement itself. The specific activities that will count towards fulfillment of an offset obligation, and how much each activity will count (multipliers),8 will be negotiated over the course of the offset contract, which may last for many years.9 Penalties may be imposed for failure to meet an offset obligation. The ability to offer a credible attractive offset package as apart of a proposed sale of military equipment, plus a reputation for meeting offset obligations is an important aspect of successful export sales of arms.'o While most exporters and even the U.S. Government dislike offsets, they are increasingly viewed by the arms-export industry as a cost of doing business in an ever-more-competitive global market burdened by overcapacity."

Direct Offsets	Description
Coproduction	Overseas production based on government-to-government or producer agreements that permit a foreign government to acquire the technical information and tooling to manufacture all or part of a defense article
Directed Subcontracting	Procurement of domestic-made components for incorporation or installation in items sold to that same nation under direct commercial contracts
Concessions	Commercial compensation practices whereby capabilities and items are given free of charge to the buyer
Technology Transfers/Licensed Production	Assistance in establishing defense industry capabilities by providing valuable technology and manufacturing know-how
Investments in Defense Firms	Capital invested to establish or expand a company in the purchasing country
Indirect Offsets	
Procurements	Purchases of parts/components from the purchasing country which are unrelated to the military system being purchased
Investments in nondefense firms	Establishing corporations in the purchasing countries to invest capital in the nations' companies
Trading of commodities	Using brokers to link buyers with commodities sellers in the purchasing country
Foreign defense-related projects	Assisting the recipient country's military services

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IMPORTANCE OF OFFSETS IN THE MIDDLE EAST

Although sales of military equipment to nations in the Middle East have always generated considerable publicity,'2 offset requirements of such sales have usually not caused significant economic concern. As the following chart shows, as recently as 1993-94, offsets in the Middle East accounted for only a small amount of the total value of offsets to which U.S. defense exporters had agreed.13

In addition, offsets in the Middle East were limited to relatively few industrial sectors. The following chart summarizes those sectors into which offsets in the Middle East were concentrated in 199394, and the percentage that such offset obligations represented of all offset obligations entered into by U.S. contractors in the respective industry.'4

These charts show clearly that as recently as four years ago, offset agreements in the Middle East represented a small percentage of the total value of offsets to which U.S. arms exporters had agreed. In addition, the top two industrial sectors, transportation equipment and fabricated metal products accounted for approximately two-thirds of the value of U.S. offset obligations in the Middle East. There were, however, a couple of sectors in which offset obligations in the Middle East accounted for a large portion of all offset obligations (legal services and holding/investment offices), demonstrating that some forms of offset obligations may be particularly suited to Middle East economies.

Geographic Region	Value of Offsets (US$000's)	Percentage of all Offsets
Europe	2,648,255	69.1%
Pacific Rim	584,810	15.3%
Middle East	100,020	2.6%
Other	501,120	13.1%
Total	3,834,205	100.0%

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Despite the relatively small value of offsets and their concentration in a comparatively small number of industrial sectors, there are two reasons why the offsets requirements of Middle East countries are important. The first is that the Middle East remains a very large and important export market for armaments, largely because it is unstable and because it controls important resources.15 For example, The United Arab Emirates announced the acquisition of 80 Lockheed Martin F- 16's worth approximately $7 billion, which may be the last major fighter purchase of the twentieth century.16 Therefore, to the extent that arms exporters want to sell to Middle Eastern nations, they must assess the offset requirements that those nations impose and their own ability to fulfill those offset requirements. The second reason the offset requirements of Middle Eastern countries are important is because Middle Eastern countries are becoming increasingly sophisticated in the manner in which they seek to have offset requirements fulfilled. Examples will be given in a following section, but other countries that impose offset requirements will likely be watching the types of offsets being used in the Middle East, and how well companies fulfill them in making their own decision about which systems to buy, which suppliers to buy from, and what type of offset requirements to seek.

Industrial Sectors	Value of Offsets in Middle East (US$000s)	Offsets in Middle East as a percentage of all offsets
Chemicals	9,194	16.3%
Primary Metal Industries	11,389	34.6%
Fabricated Metal Products	17,833	17.4%
Industrial Machinery	388	.1%
Electronical/Electrical Equipment	1,610	.3%
Transportation Equipment	48,380	2.3%
Measuring/Analyzing Instruments	400	.6%
Holding/Investment Offices	8,638	30.3%
Business Services	676	1.2%
Legal Services	71	100.0%
Educational Services	250	.2%
Technical Services	987	.7%
All Industries	100,020	2.6%

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OFFSETS REQUIREMENTS OF MAJOR NATIONS IN THE MIDDLE EAST

The following chart displays the major arms-importing countries in the Middle East, along with: (1) whether the country imposes an offset requirement; (2) the type of preferred offset; (3) the offset threshold; (4) the primary goals of the offset program; (5) the existence of formal penalties; (6) the presence of multipliers; and (7) additional comments.17

DEVELOPMENTS IN OFFSET REQUIREMENTS IN THE MIDDLE EAST

I. Volume

Country	Offset Requirement	Type of Preferred Offset	Offset Threshold US$	Primary Goals of Program	Formal Penalties	Multipliers	Additional Comments
Egypt	Required on all [illegible] since 1987	Direct and other with Transfer	N/A	Defense Industry Development and support	N/A	N/A	Limited to financing
Israel	Required since 1967	Direct and other tech transfer, defense industry investments	500,000	Defense industry support, self-sufficiency	No	Yes	Industrial coop. prog. Voluntary offsets in gov. and [illegible] mandatory civil offsets
Kuwait	Policy instituted in 1992 and revised in 1995 [illegible]	Investment	3.4 million	Economic diversification and job creation	6% of unfulfilled obligations	Up to 3.5 for high-tech investments	Period is 8 yrs, with 30% completion after 4

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The first important development in offsets in the Middle East is simple volume: Middle Eastern countries demand increasing levels of offset. Kuwait, for example, began requiring offsets for all defense purchases over $3 million in 1992. It has recently extended its offset policy to civil contracts.18 The United Arab Emirates (UAE) first instituted its offset policy in 1990. In 1993 it issued new requirements of 60 percent offsets on all contracts valued at $10 million or more.

As one of the biggest customers for armaments in the Middle East, Saudi Arabia is an example of how a wealthy country with a difficult security situation has sought to use offsets both to improve its defense infrastructure and to develop its economy. The origins of Saudi Arabia's defense offset programs began in the 1960s with the purchase of Lightning and Strikemaster aircraft from the British Aircraft Corporation.19 In 1983 the Saudi government established its Saudi Economic Offset Committee to facilitate and monitor defense offsets. This committee comprises representatives from the Saudi Arabian Basic Industries Corporation, the Saudi Industrial Development Fund and the ministries of Commerce, Planning, Industry, and Defense. It endeavors to provide a link between the Saudi government, foreign partner offset committees, defense contractors and Saudi private sector enterprise.20

Contractors from the United States first began to incur major offset obligations in February 1985 when the United States and Saudi Arabia signed a $3.8 billion contract for the Saudi purchase of a ground-based air defense system known as Peace Shield. Under the terms of the contract, Boeing, the prime contractor, assumed the responsibility of managing the 35-percent offset obligation. The U.S. Air Force eventually ended Boeing's role as prime contractor, and Hughes Aircraft Company agreed to manage it. Boeing remained obligated to participate in the existing offset ventures, but Hughes became responsible for new offsets and energized the offset program, proposing both direct, defense-related offset joint ventures in software and systems engineering, as well as an indirect offsets package which included provision for the local assembly of automobile parts and the manufacture of petrochemical products for use in car production in Europe.21

Saudi Arabia	[illegible]	[illegible]	N/A	[illegible]	No	[illegible]	[illegible]
Oman	[illegible]	Investment	N/A	[illegible]	N/A	N/A	
UAE	[illegible]	Investment	[illegible]	[illegible]	[illegible]	No	[illegible]

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In the same year that U.S. defense contractors signed the Peace Shield agreement, the British concluded an even bigger deal with Saudi Arabia to supply it with a comprehensive package of defense equipment, known as Al Yamamah. Al Yamamah was based on a government-togovernment Memorandum of Understanding (MOU), by which the British Ministry of Defense was accorded the management responsibility for the program's offset requirements, with British Aerospace assisting in its role as prime contractor. Unlike the Peace Shield program, the MOU for Al Yamamah contains no contractual offset obligation, but simply requires the British government to pursue a best endeavors approach to achieve an offset target of 25 percent of the contract's value.22

The French government has also been active in the Saudi arms market, although their successes have been overshadowed by those of the United States and the U.K. The French have closed two major military sales contract with Saudi Arabia, one in 1981 and the second in 1989 (although the deal did not close until 1994), collectively known as Al Sawari I and II. Al Sawari I contained no offset obligation, despite the fact that it was worth $2 billion. Al Sawari II, by contrast, contained a 35 percent offset obligation of its $3.7 billion value.23

The Saudi experience with offsets has been mixed. Although by 1994 four joint ventures had been formed as a result of the offset obligations incurred due to the Peace Shield program, and those joint ventures employed around 1,400 workers, less than 300 of them were Saudi Arabian. Many of the joint ventures formed as a result of Peace Shield performed work in the defense area, so they did serve to enhance Saudi Arabia's defense industrial base.24 In addition, Boeing actually exceeded its offset obligation.25 The Al Yamamah program, like Peace Shield, has achieved only limited success, despite the fact that it permitted investment in more diverse industries than did Peace Shield. Despite the fact that the MOU setting up the program was signed in 1985, the program did not effectively commence until January 1989. By January 1995 fourteen of twenty offset proposals had been approved, but only five had been implemented.

British and Saudi representatives, however, cite the presence of "moral" offsets, where British efforts lead to investment in Saudi Arabia by a third country but Britain receives no offset credit for it, in claiming success for the Al Yamamah program.26 The French offset programs carried out pursuant to the Al Sawari II contract have focused on manufacturing activities designed to broaden the range of capabilities of the Saudi industrial sector. Yet by January 1994 only eight of thirty-five proposals had been approved, and work had begun on only two of them.27 According to Prince Fahad bin Abdullah, chairman of Saudi Arabia's economic offset committee, U.S. contractors have fulfilled only 16 percent of their $1.7 billion in offset obligations; U.K. contractors have fulfilled only about 8 percent of their $2 billion in obligations, and French contractors have fulfilled only about 6 percent of their $700 million in obligations.28 Saudi Arabia continues to tout its offset program as a key to its foreign investment system,29 but it may be poised to make offsets mandatory and to impose penalties in the event of noncompliance.30

II. Activities Qualified for Offset Credit

One of the most important factors in any offset arrangement is the criteria that the country purchasing the equipment and imposing an offset requirement will use it to count progress toward fulfilling it. As was demonstrated in the preceding section, different countries in the Middle East have different objectives for their offset programs, resulting in different emphases on counting investments activity for offset credits. While Middle Eastern countries with developed economies such as Israel tend to prefer direct offsets related to the purchase of the items that generated the offset obligation,3' countries with less developed economies tend to prefer indirect offsets in the hope that they will provide general benefits for the entire national economy.32 This preference for indirect offsets has led to major European and U.S. defense contractor involvement in diverse industries: Thompson-CSF in the garment manufacturing business; Giat Industries in air conditioning, a horse racetrack, a stainless steel service center, vegetable production, and the winding and overhaul of industrial electric motors; Raytheon in aluminum smelting; and McDonnell-Douglas Helicopter Company (now a part of Boeing) in oil-spill cleanups.33 Giat Industries has had to be particularly creative in supporting proposals for the privatization of the UAE's infrastructure, because of the large $2 billion offset obligation that it incurred along with the sale of 436 Leclerc main battle tanks worth $3.5 billion to the UAE in 1993.TM

The tendency to prefer indirect offsets is best illustrated by the offsets program of the UAE.35 The UAE imposes an offset obligation of 60 percent of the value of the procurement contract, not just any investment counts. The investment must be in the form of a profitable and sustainable joint venture in which a local UAE partner must retain at least 51 percent of the ownership. The foreign joint venture partner need not be the supplier itself, but can be a third party that the supplier induces to enter into the joint venture. Money invested in such joint ventures does not itself count toward fulfillment of a contractor's offset obligation. Rather, an "output-based formula" related to profits generated by a joint-venture project and incorporating certain multipliers is used to calculate offset credits. The UAE

Offsets Group seeks to take into account the "valueadded" expected for the UAE national economy, the amount that the government needs to spend to generate comparable value-added, and the ability of the supplier to achieve what is proposed.36 One type of measurement that has been suggested, for example, has been "dividends payable."37

The system used by the UAE to calculate offset credits is similar to the concept of Economic Value Added (EVA(TM)).38 EVAM developed by the investment banking firm of Stern Stewart & Co., is an attempt to express in an economic sense what the income statement expresses in an accounting sense. It differs from accounting profit in that it adjusts the profit reported on the income statement to reflect perceived distortions in Generally Accepted Accounting Principles.39 It then calculates a cost of capital that compensates investors for bearing the firm's explicit business risk and deducts that cost of capital from the adjusted income to calculate a "true income": the amount of income attributable to management's actions.40 Some companies use the cost of capital calculated for EVA(TM) to measure the net present value of internal investment proposals.41 EVAM seeks to measure the "true" economic profit of a project or business, just as the offset system used by the UAE seeks to award offset credits only for the "true" economic returns generated by the joint venture formed to meet the offset obligation. Although the literature about the UAE's offsets program has never linked it explicitly to EVA(TM), it has some of EVA(TM)'s characteristics.42 The "amount that the government needs to spend to generate comparable value added" may be another way of expressing the Weighted Average Cost of Capital (WACC). What does it "cost" the UAE government to agree to this particular offset rather than spend money out of its own budget to achieve the same results? In fact, the UAE appears to be requiring some type of "Economic Value Added" analysis to judge whether an investment will count towards fulfillment of an offset obligation.43 If this type of accounting for offset obligation fulfillment becomes widespread, defense contractors will have to exercise greater care in selecting investments to meet their offset obligations.

Would use of some version of EVA(TM) lead to more rational application of offset rules? In capitalist economies capital should move to its most productive use, so offset rules that encourage profitable investments may improve the situation. Application of EVA(TM) concepts will, however, be difficult for offset joint ventures. First, applying EVA(TM) depends heavily on determining an accurate WACC. Calculating WACC for a new joint venture is subject to limitations. Determining the market risk premium and the "beta" for a company whose shares are not traded publicly and which has no track record will be difficult, and these are crucial to calculating the cost of equity capital. In addition, determining the real cost of borrowing for untraded debt obligations involves fairly detailed knowledge of financial arrangements that are usually not public"44 (although they are likely to be known to the UAE government). Finally, even determining the percentage of the joint venture that is financed by debt and the percentage financed through equity is not without complications, e.g. whether short-term loans and trade payables should be considered as debt financing. Once a WACC is determined it must then be applied to returns that must themselves be adjusted to reflect their "true" economic value. The subjectivity insures ample opportunity for political manipulation as well as effective negotiation in approving joint ventures for offset credits and in determining the amount applied towards fulfillment of the offset obligation.45 Despite these potential disadvantages to the approach of the UAE, it is reportedly being emulated by several industrialized nations in Europe, Southeast Asia and Africa.46 Saudi Arabia, for example, expects its offset ventures to generate an internal rate of return of at least 10 percent.47

Some contractors have experienced difficulty in meeting the stringent criteria of the UAE's offset policy. As mentioned earlier, Giat Industries incurred a large offset obligation to the UAE as a result of a large sale of Leclerc battle tanks. Giat found itself in difficulty from the beginning because it lost approximately two years in assembling and implementing acceptable offset ventures. Some analysts have concluded that Giat will be unable to meet its offset obligations, but others believe that its recent efforts have put it on track to fulfilling its contract.48 In addition to the problems faced by Giat, the Czech company Tatra, which was awarded a contract for 1,127 heavy off-road vehicles to support the Leclerc tanks, has found it difficult to identify projects that will comply with the profitability requirements necessary to meet its $108 million offset obligation.49 Possibly as a result of the difficulties that some contractors have experienced with the rigorous offset credit criteria in the UAE, a special-purpose investment vehicle, Abu Dhabi Investment Co. (ADIC), has been established for the purpose of facilitating offset participation. Giat Industries used ADIC to form Combined Cargoes UAE, a joint venture between a Norwegian company recruited by Giat (Torvald Klaveness Group), ADIC itself, and United Technical Services (of Abu Dhabi), created for the purpose of owning, operating and brokering cargoes and vessels.50 Criticism of the UAE system from contractors has not, however, caused the UAE government to relax its restrictions.51

Difficulties in fulfilling offset obligations in the relatively underdeveloped economies of the Middle Eastern countries is not limited to the rigorous system of the UAE. As was mentioned earlier, U.S., U.K., and French contractors have had difficultly fulfilling their obligations even under the more flexible regime of Saudi Arabia. In addition, the government of Oman has criticized contractors in the U.K. for lack of due diligence in pursuing the voluntary offset arrangements that Oman insisted upon in its military equipment purchases from the U.K.52

III. Activities in Anticipation of Offset Credit

Another important development in offsets in the Middle East is the practice of making investment in anticipation of receiving a contract for the sale of military equipment. The stringent UAE approach to granting offset credits has encouraged contractors to "pre-perform" their offset obligations.53 For example, when McDonnell Douglas was competing to secure a contract from the UAE to sell approximately $5 billion worth of jet fighters, it announced a plan to build a $18 million plant in the UAE to refine oils used in numerous substances such as shampoo and paint, hoping to entice the UAE government to purchase its F- 15.54 The UAE's proposal to acquire additional jet fighters led to additional preperformance on the part of the competitors. France's Dassault Aviation, Thomson-CSF and Snecma jointly formed an offset office in Abu Dhabi known as the French Fighter Investment & Cooperation Program. Shortly after announcing the opening of the office, the French partners announced that they would team with Al-Hamed Enterprises to form a joint venture known as Franserres UAE, which will build greenhouses to produce fresh flowers for local markets and for export to Europe and Japan.ss Lockheed Martin also performed some offsets in the UAE in support of its successful bid to sell F- 16's to that country. British Aerospace invested over $20 million to acquire a 15 percent stake in a UAE company known as Oasis Investment Leasing Co. at the same time that it was bidding on the contract to sell fighters to the UAE, but both parties denied that it was a pre-performance of an anticipated offset arising from the possible sale of the new fighters. It may be an investment vehicle that British Aerospace intends to use to fulfill future offset obligations, either through preperformance or as incurred.6

Yet another example from the UAE is the Abu Dhabi Ship Building Company (ADSB), a joint venture established between investors in the UAE, the UAE government and Newport News Shipbuilding to build and repair ships. This joint venture was established in 1993 and counted towards the offset obligation of Newport News Shipbuilding, despite the fact that at the time Newport News Shipbuilding had no offset obligation in the UAE. Newport News Shipbuilding management evidently saw ADSB as a good investment opportunity and a solid basis for long-term business relationships in the UAE.57 The company probably also hoped to get a jump on its competitors for the sale of six fast patrol boats worth approximately $1 billion.58 Finally, Construcciones Aeronauticas SA (CASA) of Spain established a joint venture with Al Ain International of the UAE, known as Giralda Emirates, to manufacture bricks and tile to support CASA's bid to sell $200 million of maritime patrol aircraft. The ability to pre-perform offset obligations and to count the credits thus earned is not unique to the UAE. Prior to the signing of the Al Sawari II contract for three frigates, French companies began promoting investment in Saudi Arabia, even in the absence of an institutional arrangement for banking these investments as credits.59

IV. Offset Credits as a Medium of Exchange

Newport News Shipbuilding probably had greater confidence in entering in the ADSB joint venture because it knew that not only could the offset credits it earned be applied to its own offset obligation, they could be sold or traded to other contractors who needed such credits to fulfill their own offset obligations. In contrast to the practices of countries such as Kuwait,bo offset credits in the UAE can be banked for up to ten years and are transferable. All credits are considered to be of the same value. The trading is conducted through a UAE clearing bank and the premium or the discount paid for or deducted from the sale or purchase of the credits gives the UAE Offsets Group an idea of how successful contractors have been, or anticipate being, in fulfilling their offset obligations." If contractors are paying a premium to purchase offset credits, they must be having difficulty in meeting their own offset obligations. (The UAE Offsets Group might want to consider relaxing some of its requirements for counting offset investment.) If, on the other hand, offset credits are trading at a discount, there is likely to be a glut of such credits on the market and contractors may wish to "unload" them before they expire. (In that event, the UAE Offsets Group might want to limit the types of investments for which it grants offset credit or otherwise raise the threshold for offset credit generation.) Dr. Amin Badr El-Din, chairman of the United Arab Emirates offsets group, has even raised the possibility of offering offset credit futures, in which joint venture businesses that have a high probability of generating a certain level of profitability in the future could sell the rights to the offset credits that future profitability would generate.62 Additional ideas set forth by Dr. El-Din have been the concept of offset exchange rates among countries whose contractors have incurred such obligations and the concept of investment funds in offset fulfillment, involving prime defense contractors, property developers, engineering companies, conglomerates, energy specialists, communication companies, investment bankers, lawyers, accountants, and financiers as a way for prime contractors to meet their increasingly large offset obligations.63

A major issue that must eventually be confronted is what view taxation authorities are likely to take toward the accumulation and trading of offset credits. Taxation authorities generally dislike most forms of countertrade because they make assessments of value - and therefore of taxes owing on exchanges - difficult.64 If offset credits begin to be accumulated and traded regularly, tax laws may permit them to be assessed and taxed. The Internal Revenue Code takes a very expansive view of gross income: "[all income from whatever source derived."65 It includes numerous items not ordinarily regarded as income and can be received not only in the form of cash or cash equivalents, but also in the form of property or services.66 To the extent that offset credits are considered a form of property, gains derived from dealing in them are generally included in gross income and can be either ordinary income or capital gains, depending on whether the offset credit is considered a "capital asset."6' While research conducted in connection with this article produced no authority on the subject of offsets, the U.S. Internal Revenue Service has ruled that members of "barter clubs" who provide goods or services in exchange for "trade" or "credit" units, or who give up accumulated trade or credit units in exchange for goods and services, must include the value of the goods or services in their gross income. The language of the membership agreement and operations manual of the barter club may indicate explicitly or implicitly the equivalent dollar value of the goods or services.bg To the extent that offset credits are "bartered" in arrangements that resemble these barter clubs, the IRS is quite likely to hold that their exchange results in gross income. Such a ruling would probably have the effect of impeding the development of such exchanges.

In contrast to the practice in the UAE, Israel's practice of strongly encouraging "offset-like" agreements when its importers enter into contracts with foreign suppliers has the disadvantage that such credits cannot be banked, transferred or cashed. This inability to accumulate or transfer credits from one transaction to another is particularly important, since these private-sector-imposed obligations now exceed public-sector mandatory civil offsets by a considerable margin.69

V. Middle Eastern Countries on the Receiving End of Offset Requirements

The other important development is that Middle Eastern countries are finding themselves on the "other end" of offset obligations. Israel, in particular, is now finding that it must agree to offset obligations in order to sell its systems abroad, rather than merely imposing offset obligations (in the sense that it requires "participation" as a condition of purchasing foreign systems) as a condition of buying a system from a foreign country, as it has done in the past. For example, Rafael of Israel offered a direct offset to India in the form of a coproduction arrangement for interception boats for the Indian navy and coast guard.70 In another example, the Israeli company Lahav Aircraft Industries offered a 40 percent offset proposal in an offer to upgrade Hungarian MiG-21 fighters." The pressure on Israeli industries to fulfill offset obligations is likely to become particularly acute in their dealings with Turkey, where Israeli companies have over $800 million in awarded and planned military contracts, mainly for the modernization of Turkish F-4 and F-5 fighters and a contract for the Popeye missiles. Fulfillment of these offset obligations may involve Israeli purchase of an armored vehicle built by Istanbulbased Otokar, and Turkish participation in Israel's Arrow anti-tactical ballistic missile system.72 Elgan Ltd., an Israeli company that was established about twenty years ago to promote Israeli exports, now assists Israeli companies facing offset requirements abroad as well as foreign companies fulfilling their offset obligations in Israel. Elgan estimates, however, that only about ten Israeli companies now face offset obligations abroad, and only five do so on a regular basis.73

It does not appear that this new Israeli role has reduced the government's policy of requiring offsets in its own procurements from abroad, or encouraging Israeli private companies to seek offset-like concessions from their foreign suppliers.74

CONCLUSION

Despite the objections of economists and the official U.S. policy discouraging them, offsets show no sign of disappearing or even of shrinking in importance. Those companies, therefore, seeking to sell military and expensive civil systems to Middle East countries will find (1) offset requirements will become more, not less, characteristic of sales to Middle Eastern countries; (2) Middle Eastern countries that have themselves benefited by imposing offset obligations will increasingly be obligated to fulfill such obligations in connection with their own sales of military equipment; (3) the investments that will qualify for offset credit are likely to shrink; (4) Middle Eastern countries will use increasingly sophisticated forms of financial measurements to determine profitability; and (5) countries will increasingly scrutinize the past performance of contractors and the efforts that they are making to invest in their countries even prior to the award of a contract. Fortunately, defense contractors are also likely to find that offset credits will become an increasingly fungible medium of exchange, a welcome development as long as it does not lead to tax implications. Defense contractors selling systems in the Middle East may find that they have to adopt techniques of investment analysis similar to those used by investment bankers in order to assess which investments are likely to be profitable and to fulfill the offset requirements incurred as part of foreign sales. Offsets will, however, remain as much a political as an economic tool: the right political climate and connections can bring relief from such obligations even where they would ordinarily be imposed.75

In the absence of a dramatic change in attitude by Middle East governments, offsets will continue to be a major factor with which defense and other contractors will have to contend as a condition of doing business in the Middle East. Contractors that plan on how to meet their likely offset obligations at the same time that they are putting together a sales proposal are more likely both to sell the system in question and to fulfill the offset obligations incurred as a result of the sale.

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Offset arrangements began in the late 1950s. One of the first U.S. examples was the coproduction of the F104 jet fighter and Hawk surface-to-air missile in Western Europe in the early 1960s. Leo Welt, "The Offsetting Factor," Defense & Foreign Affairs, December, 1985, p. 19. 2 The most common complaints made against offsets are that: (1) they cost jobs in the country of the company agreeing to the offset; and (2) they create competitors (generally through technology transfer and the acquisition of other skills) in the country imposing the offset requirement and benefiting from the offset. See Charles M. Sennott, "Offsets: In these deals, American workers pay," Boston Globe, February 11, 1996, p. BI 1. Offsets do no harm to the prime contractors and services to private contractors. Chip Block, "Mandatory Offsets in International Sales Are Costing US Jobs, Profits," National Defense, April 1998, p. 59; Helene Cooper, "US Defense Firms Hurt by 'Offset' Deals abroad," Wall Street Journal, May 21, 1996, pp. A2 and A10. The overall effect of offsets on the defense industrial base has been debated but is probably impossible to measure, since it is very hard to determine which contracts would not have occurred but for the offsets that the seller agreed to. See Dennis Wilson, "Balancing Efficiency with Equity in Foreign Defense Acquisitions," Naval War College Review, The most common complaints mVol. XLVIII, No. 2, Spring 1995, p. 73.

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* General Accounting Office, Military Exports: Offset Demands Continue to Grow, GAOINSIAD-96-65, April 1996, pp. 3-4. (GAO, Offset Demands Grow). Jeff Cole and Helene Cooper, "Buyers of US Arms Toughen Demands," Wall Street Journal, April 16, 1996, p. A2 and A16. 4 See Sally H. Bath, Director, Office of Aerospace, Department of Commerce, "Offsets and U.S. Interests in Civil Aerospace," p. 2. Presented at "Conference on Offsets and the National Interest," Washington DC, February 28, 1996. Large telecommunications contracts have also been the subject of offset agreements: in 1994 AT&T agreed to an offset obligation in connection with a $4billion telephone expansion project in Saudi Arabia. See Ron Matthews, "Saudi Arabia's Defense Offset Programmes: Progress, Policy and Performance," Defense and Peace Economics, vol. 7, 1996, p. 250. This explanation of the origin of the word offset was offered in Bath, "Offsets and U.S. Interests," p. 1. 6 Some commentators have referred to "semidirect" offsets: agreements that the vendor will incorporate components produced by the purchasing nations in items sold to third countries or even in items sold in the selling country's home market. Wilson, "Efficiency with Equity," p. 69. 7 This table appeared in Michael Czinkota and Ilkka Ronkained, International Marketing, 5th ed., The Dryden Press, Orlando, Florida, 1998, p. 755.

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Multipliers are often used by governments to direct investment or purchases to certain industries or types of businesses (e.g. small or medium-sized businesses). They may also reflect the high initial cost to develop the transferred item or technology on the part of the seller. International Marketing, p. 846. In the case of the sale of the F-18 Hornet fighter to Finland, for example, McDonnell Douglas (now Boeing) had from May 1992 until 2002 to fulfill its offset agreement. International Marketing, p. 847. Io The offset package offered by McDonnell Douglas is widely believed to have been one of the important reasons why the Finnish Government selected the F-18 rather than competing fighter planes: the US (then) General Dynamics F-16, the French Dassault-Breguet Mirage 2000-5, and the Swedish Industrigruppen JAS39 Grypen. International Marketing, pp. 844-45, 847.

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17Expressions of industry and government dislike of offsets can be found in Sennott, "American workers" p.B I1. The U.S. Government regards offsets as "economically inefficient and market distorting," but its efforts to reduce them, even in cases where purchases are funded by U.S. Foreign Military Financing, have been limited. See "Offsets in Defense Trade," Business America, vol. 11 7, Department of Commerce, September 1996 (online version).

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12 For example, considerable controversy surrounded the sale of AWACS by the United States to Saudi Arabia in the early 1980s because it enhanced Saudi war-making capabilities. 13 The data for the chart were found in a chart entitled Defense Offset Transactions by Region and Industry, 1993-1994 in "Offsets," Business America. 14 The data in the chart came from "Offsets," Business America. The following industrial sectors had no offset values from the Middle East, although each had some offset values from other geographic regions: Mining, General Contractors, Heavy Construction, Construction - Specialty Trades, Food and Kindred Products, Textile Mill Products, Apparel and Other Finished Products, Paper Mills and Allied Products, Printing and Publishing, Stone, Clay, and Glass Products, Water Transportation, Transportation Services, Wholesale Trade -- Durables, Wholesale Trade - Non-durables, Nondepository Credit Institutions, Miscellaneous Repair Services and Undetermined. 15 For example, between 1988 and 1995 Saudi Arabia imported arms worth $6.667 trillion, making it the world's top arms importer. Paul Mann, "Global Arms Exports Continue Decline," Aviation Week & Space Technology, September 2, 1996, p.81. 16 Edward Phillips and John D. Morrocco, "United Arab Emirates Order 80 F-16's" Aviation Week & Space Technology. Mav 18. 1998. D.33.

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17 The chart is adapted from information that appeared in "Offsets," Business America. More detailed information on offsets in

Kuwait, Saudi Arabia and the United Arab Emirates appeared in GAO, Offset Demands Grow, pp.32-35. ys "Kuwait To Extend Offset Policy to Civil Contracts," Countertrade & Offset, vol.XVI, no. 3, Feb. 9, 1998, I4l. Matthews, "Saudi Arabia's Offset Programmes," p. 234.

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20 Ibid., p. 238. 21 Ibid., p. 234-35. 22 Ibid., p. 235-36. 23 Ibid. p. 237

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24 Ibid., p. 240-43. It is not clear that investment in a defense industrial base is economically very meaningful in light of the overcapacity that now exists in the world-wide defense industry. Id. pp. 248-49. Ibid., p. 248. Ibid., p. 244-46. Ibid., p. 246-47.

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28 "Saudi Offset Success Spurs Greater Focus on Program," Countertrade & Offset, vol.XV, no.l2, June 23, 1997, p.7. Despite these low performance figures, the same article says that Saudi authorities regard the offsets program as successful and may impose offset requirements on additional civil contracts. Saudi authorities may, however, shift work to joint ventures created in satisfaction of offset obligations, thus helping to ensure profitability. "Offset Spawned JV's Become The Ideal For Saudi Program," Countertrade & Offset, vol. XV, no. 12, June 23, 1997, pp. 7-8. 29 "Saudi Offset Success Spurs Greater Focus On Program," Countertrade & Offset, voI.XV, no. 12, June 23, 1997, p. 7.

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30 "Saudis Make Offsets Mandatory; Add Penalty Clause," Countertrade & Offset, vol. XVI, no, Jan. 13, 1998, pp. 4-5. 31 For example, Israel may want the winner of a competition to purchase new fighter jets to fulfill its "industrial cooperation agreement" through the purchase of Israeli military equipment. "Fighter Procurement Brings New Look at Israeli IP," Countertrade & Offset, vol.XVI, no.4, Feb. 23, 1998, p. 1. Israel companies such as Israeli Aircraft Industries, Cyclone Aviation Products, Israel Military Industries and TAT Aero have received contracts in connection with the sale of the F-151 fighter.

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Stephen Martin and Hartley Keith, "UK Firms' Experience and Perceptions of Defense Offsets: Survey Results," Defense and Peace Economies, vol.6, no.2, 1995, pp. 126-128. This tendency of nations with less developed economies to prefer indirect offsets was also noted in GAO, Offset Demands Grow, pp.3-5,9-11. Turkish government officials, in contrast, believe that they have gained more from direct offsets rather than indirect ones. "A Review of Turkey's Offset Successes...& Their Families," Countertrade & Offset, vol. XVI, no.2, Jan. 26, 1998, p. 4. These examples were given in GAO, Offset Demands Grow, p. 10. Additional examples in the case of Giat came from "Giat Looks for Future Offset Stakes in UAE Priviatization," Countertrade & Offset, vol. XV, no. 2, Jan. 27, 1997, pp. 2-3 and "Offset Credit Given to Giat JV Against Leclerc Tank Sale, Countertrade & Of set, vol. XV, no. 18, September 22, 1997, p. 2. The Raytheon example was given in "US$1.5b Investment In Kuwait Pledged for Offset Projects," Countertrade & Offset, vol. XVI, no. 3, Feb.9, 1998, p. 2.

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Countertrade & Offset, Vol. XV, no. 2, Jan. 27, 1997, pp. 2-3. Countertrade & Offset, Vol. XV, no. 5, March 10, 1997, p. 4. 35 The information about the offsets program of the UAE is taken mostly from Amin Badr El-Din, "The Offsets Program In The United Arab Emirates," Middle East Policy, vol. V, No. 1, Jan. 1997, pp. 120-23. 36 U.S. defense contractors have characterized the UAE offsets policy to the General Accounting Office as "particularly costly and impractical." GAO, Offset Demands Grow, p. 11. "Review Of Offset Compliance Procedures In The Emirates," Countertrade & Offset, vol. XV, no. 12, June 23, 1997, pp. 3-4.

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This description of EVA(TM) is contained in G. Bennett Stewart III, "EVA(TM): Fact And Fantasy," Journal of Applied Corporate Finance, vol. 7, no. 2, Summer 1994, pp. 71-84. This calculation can be especially complicated. Stern Stewart & Co. has identified 164 ways in which accounting calculations made according to Generally Accepted Accounting Principles may have to be adjusted to calculate EVA(TM). The article notes, however, that usually "only" 20 to 25 adjustments need to be made. G. Bennett Stewart Ill, "EVA(TM): Fact And Fantasy," Journal of Applied Corporate Finance, vol. 7, no. 2, Summer 1994, p. 73.

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The Capital Asset Pricing Model (CAPM) is used to calculate a specific company's cost of capital. It begins with the cost of equity capital, which is determined by beginning with the risk free rate (usually government bonds) and adding to it the market risk premium times the company's "beta." The beta of a particular company is calculated through a regression analysis that seeks to measure how much more a company's share prices rise, and how much more they fall, than do the share prices of similarly situated companies. The cost of debt capital is ascertained through the interest rate at which the firm borrows money in the capital markets, adjusted for taxes. The Weighted Average Cost of Capital (WACC) is then calculated by multiplying the cost of equity capital by the percentage of the company financed through debt. This WACC is often referred to as the "hurdle rate," the amount that any project must return to be considered by the corporation, and the discount rate that the company uses to make calculations of Net Present Value of cash flows. For a full explanation of calculating WACC through CAPM, see Stephen Ross, Randolph Westerfield, Jeffrey Jaffe, Corporate Finance, 4th ed., Irwin, Chicago, III. 1996, pp. 314-27. Using net present value as a way of deciding which internal investment proposals to pursue has largely replaced other less sophisticated measures such as the payback period rule, the discounted payback period rule, the average accounting return, the internal rate of return, and the profitability index. Stephen Ross, Randolph Westerfield, Jeffrey Jaffe, Corporate Finance, 4th ed., Irwin, Chicago, 111. 1996, pp. 139-59. 42 An attempt to mimic EVA(TM) may not be the only evidence of the sophistication of the UAE's offset program. The penalty for non-fulfillment of offset obligations is 8.5 percent, 0.5 percent above the maximum "cost premium" calculated by two commentators as the price of insisting on an offset obligation, rather than just buying "off-the-shelf." This calculation was, however, for purchases by the government of the UK from contractors in the U.S. It is, however, one of the few attempts to assess the impact of offsets on the price of the acquired system. Stephen Martin and Keith Hartley, "UK Firms Experience And Perceptions Of Defense Offsets: Survey Results," Defense and Peace Economies, vol. 6, 1995, pp. 136-37. The comparison between investment banking and the UAE's offsets program was made explicitly by ElDin in "UAE's Offset Chief & His Hard Line For Suppliers," Countertrade & Offset, vol. XV, no. 12, June 23, 1997, pp. 1-2.

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4 Calculation of the "real" cost of debt equity usually means determining the "yield to maturity" of bonds, not just their face value. 45 This flexibility in applying the mechanics of calculating the offset credit was noted in "Bryan Cave LLP Associates Review Middle East Offsets," Countertrade & Offset, vol. XIV, no. 15, August 12, 1996, p. 4. This "flexibility" may have been a factor in the ability of an Aerospatiale joint venture, Gam-Aero, to earn offset credits even though it was a start-up company that remained in the red.

"An Insider's View Of UAE Offsets From Aerospatiale," Countertrade & Offset, vol. XV, no. 12, June 23, 1997, pp. 4-5. 46 "Offsets in the UAE," Middle East Policy, p. 122. 47 Matthews, "Saudi Arabia's Offset Programmes," p. 239. Internal rate of return (IRR) is a determination of the percentage that causes the returns from the cash flows of a project to be zero. The proposed project will be accepted if the discount rate is less than the IRR, but will be rejected if the discount rate exceeds the calculated IRR. Internal rate of return is difficult to use when a project's cash flows will alternate between positive and negative because it will generate several IRR's. Internal rate of return may also lead to scale and timing problems in the case of mutually exclusive projects. Most analysts believe that calculation of the net present value of projected cash flows is a better way to evaluate a project, although it requires calculating WACC. Stephen Ross, Randolph Westerfield, Jeffrey Jaffe, Corporate Finance, 4h ed., Irwin, Chicago, Ill. 1996, pp. 145-57.

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48 "Giat Overcoming Magnitude Of The Fulfillment Quandary, ' Countertrade & Offset, vol.XV, no. 12, June 23, 1997, pp. 2-3. 49 "Czech Contractor Facing UAE Fulfillment Predicament," Countertrade & Offset, vol. XVI, no. 1, Jan. 13, 1998, p. 4. so "ADIC Provides UAE `Start Up Investments' For Obligees," Countertrade & Offset, vol.XV, no. 12, June 23, 1997, p. 4.

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5 "UAE Offset Group Responds To Criticism; Remains Unyielding," Countertrade & Offset, vol. XV, no. 22, November 24, 1997, pp. 3-4. 52 "Oman Reproaches UK Over Non-Performance of Offsets," Countertrade & Offset, vol. XVI, no. 1, Jan. 13, 1998, pp. 3-4. 53 "UAE's Offset Chief & His Hard Line for Suppliers," Countertrade & Offset, vol XV, no. 12, June 23, 1997, p. 1-2. 54 Charles Sennott, "America's the muscle in an all-star cast," Boston Globe, February 11, 1996, p. B3. Pratt & Whitney also entered into an offset joint venture in support of its bid to supply engines for the new aircraft. "Bidders Announce Forward Offsets In UAE," Countertrade & Offset, vol. XIV, no. 1, January 15, 1996, D. 1.

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55 "Summary Of Offset-Related Procurement & Fulfillment," Countertrade & Offset, vol. XV, no. 12, June 23, 1997, p. 5. The French Fighter Investment & Cooperation Program may have generated offset credits for use in the $2.7 billion contract that Dassault received to upgrade existing Mirage fighters in the UAE's inventory to Mirage 2000-9 configuration. "UAE Offset Group Announced Dassault-UTS Joint Venture," Countertrade & Offset, vol. XVI, no. 1, Jan. 13, 1998, pp. 2-3 56 "Bae Investment In UAE Venture Not Receiving Offset Credit," Countertrade & Offset, vol. XV, no. 17, September 8, 1997, p. 5. 57 "Offsets in the UAE," Middle East Policy, pp. 122-23. 58 "Summary Of Offset-Related Procurement & Fulfillment," Countertrade & Offset, vol. XV, no. 12, June 23 1997_ on. 5-6.

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Matthews, "Saudi Arabia's Offset Programmes," p. 246-47. 60 Kuwait permits contractors to earn offset credits only during the eight year fulfillment term of an existing contract. Future credits may only be earned equal to the amount of the original obligation. Future Credits cannot be negotiated, transferred, or assigned to third parties in any way, shape, or form. "Kuwait's Offset Program Focuses on Indirects, OBV's," Countertrade & Offset, vol. XVI, no. 3, Feb. 9, 1998, p. 4. 61 "UAE's Offset Chief& His Hard Line For Suppliers," Countertrade & Offset, vol. XV, no. 12, June 23, 1997, pp. 1-2. 62 Dr. El-Din indicated that a premium of 7-8 percent would indicate that contractors were becoming "despondent" about their chances of earning offset credits through their own activities. "UAE's Offset Chief & His Hard Line For Suppliers," Countertrade & Offset, vol. XVI, no. 12, June 23, 1997, pp. 1-2. He also

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said that the "current convertible value of an offset credit" was .5 percent, but unnamed contractors have disputed Dr. El-Din's estimate and said that a 6-8 percent credit transfer value was more realistic. "UOG Declares A New Phase In UAE Offset Program," Countertrade & Offset, vol. XVI, no. 1, Jan. 13, 1998, p. 2. 63 "UAE Offset Conference Shows Widening Of Interest," and "UOG Declares A New Phase in UAE Offset Program," Countertrade & Offset, vol. XVI, no. 1, Jan. 13, 1998, pp. 1-2. 64 John D. Lange, Jr., director, Office of Trade Finance, U.S. Department of the Treasury, testimony before the House of Representatives Economic Stabilization Subcommittee, Committee on Banking, Finance, and Urban Affairs, 97g Cong., ln sess., September 24, 1981, cited in International Marketing, p. 758. 65 Internal Revenue Code 61. 66 CCH[5510 and 5504.014. 67 CCH 5700.01 and 5700.02.

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bs Rev. Rul. 80-52, 19890-1 CB 100 and Rev. Rul. 83-163, 1983-2 CB 26, cited in CCH 1 5508.0128. 69 "Israel's Offset Doctrine Embraces Private Sector," Countertrade & Offset, vol. XIV, no. 13, July 8, 1996, pp. 1-2. Egypt is also seeking to emphasize offset-like arrangements in civil contracts. "Countertrade In Egypt Slowly Facing Modern Challenges," Countertrade & Offset, vol. XIV, no. 15, August 12, 1996, pp. 7R

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70 "Heard In The Trade," Countertrade & Offset, vol. XIV, no. 15, August 12, 1996, p. 3. t "Israeli Firm Pledges 40 Percent Offset in Hungarian MiG Upgrade," Countertrade & Offset, vol. XIV, no. 18, September 23, 1996, pp. 4-5. 72 "Israeli's Are Pushed For More Offsets In Turkey," Countertrade & Offset, vol. XVI, not. 4, Feb. 23, 199R n 4

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73 "Rapid Offset Pace Is Windfall For Israel's Elgan," Countertrade & Offset, vol. XIV, no. 15, August 12, 1996, p. 6. The number of Israeli companies facing offset obligations may be greater in light of the more recent contracts with Turkey. 74 "Israel's Offset Doctrine Embraces Private Sector," Countertrade & Offset, vol. XIV, no. 13, July 8, 1996, pp. 1-2.

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For example, Eurocopter incurred no offset obligation in its sale of twelve Cougar helicopters to Saudi Arabia, as a result of a diplomatic package. "Eurocopter Avoids Saudi Offsets As A `Royal Gifts,'" Countertrade & Offset, vol. XIV, no. 22, November 25, 1996, p. 4.

[Author note]

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